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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/695,531	10/23/2000	Thomas T. Yamashita	YAMA-008	3483

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EXAMINER

GELLNER, JEFFREY L

ART UNIT	PAPER NUMBER
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3643

DATE MAILED: 07/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/695,531

Applicant(s)

YAMASHITA, THOMAS T

Examiner

Jeffrey L. Gellner

Art Unit

3643

-- The MAILING DATE of this c mmunication appears on th cover sheet with the correspondence address

Peri d for R ply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disp sition of Claims

- 4) ☒ Claim(s) 1 and 3-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 3643

DETAILED ACTION***Claim Rejections - 35 USC § 101***

The claimed invention is directed to non-statutory subject matter. Claims 1-21 are rejection under 35 USC §101 as being directed to non-statutory matter. The subject matter of the claims is directed to naturally occurring microbial and fungal species. The Claims are deemed non-statutory in view of MPEP 706.03(a) and *Funk Brothers Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127 (1948).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reinbergen (WO 97/31879) in view of Zuckerman (US 5,378,460).

As to Claim 1, Reinbergen discloses a composition comprising a plurality of distinct microbial species (page 5 lines 7-29) wherein each constituent member of the plurality species are considered to be antagonistic against microbe pathogens, non-pathogenic toward plant and animals, tolerant of high temperatures, grows rapidly; and proliferates on a complex substrate (Applicant's Specification page 5 penultimate para for *B. subtilis* and *B. cereus*, for example). Not disclosed is the use of *B. thuringiensis*. Zuckerman et al., however, discloses the use of *B.*

Art Unit: 3643

thuringiensis is a composition for soil (abstract; col. 5 lines 29-33). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Reinbergen by using *B. thuringiensis* in the composition so as add more nematocidal activity (see Zuckerman et al. at abstract).

As to Claims 3 and 4, Reinbergen as modified by Zuckerman et al. further disclose at least 5 distinct microbial species or 5 distinct bacteria species (see Reinbergen at page 5 lines 7-29) in a composition (Reinbergen at page 5 lines 25-29).

As to Claim 5, Reinbergen as modified by Zuckerman et al. further disclose 2 distinct fungal species (Reinbergen at page 5 middle para.).

As to Claims 6-8, Reinbergen as modified by Zuckerman et al. further disclose a liquid or solid carrier (Reinbergen at page 5 lines 19-29).

As to Claim 9, Reinbergen as modified by Zuckerman et al. further disclose a complex substrate (Zuckerman et al. at col. 3 lines 21-35).

As to Claim 21, Reinbergen as modified by Zuckerman et al. further disclose a fungal species (Reinbergen at page 5 lines 13-16).

Claims 10-13, 14, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reinbergen (WO 97/31879).

As to Claim 10, Reinbergen discloses a composition comprising a plurality of distinct microbial species (see abstract and Example 1 which discloses the use of several species in one solution) and the use of *Bacillus subtilus* and *Trichoderma polysporum* in the compositions (page 5 middle para.). These species are considered to be antagonistic against microbe

Art Unit: 3643

pathogens, non-pathogenic toward plant and animals, tolerant of high temperatures, grows rapidly; and proliferates on a complex substrate (Applicant's Specification page 5 penultimate para). Not disclosed is a composition containing 5 different bacterial species and two different fungal species. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Reinbergen by making it with 5 bacterial and 2 fungal species so as to achieve a particular purpose with a particular soil type.

As to Claims 11 and 12, Reinbergen further discloses a liquid or solid carrier (page 5 lines 19-29).

As to Claim 13, Reinbergen further discloses applying the composition of Claim 1 to the soil (abstract and page 11 example 1).

As to Claim 14, Reinbergen discloses a method of producing a composition of Claim 1, comprising identifying a plurality of microbial species that are antagonistic against microbe pathogens, non-pathogenic toward plant and animals, tolerant of high temperatures, grows rapidly; and proliferates on a complex substrate (page 5 middle para); and combining the plurality (page 5 lines 19-21).

As to Claims 17-19, Reinbergen further discloses a liquid or solid carrier (page 5 lines 19-29).

Claims 15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reinbergen (WO 97/31879).

As to Claim 15, the limitations of Claim 14 are disclosed as described above. Not disclosed is growing the species separately before combining. Examiner takes official notice that

Art Unit: 3643

it old and notoriously well known in the microbiological art to grow microbial species separately. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the method of Reinbergen, as modified, by growing the species separately so as to maintain pure species lines to ensure quality of the final product.

As to Claim 20, the limitations of Claim 14 are disclosed as described above. Not disclosed are the species assayed to determine their (i)-(v) characteristics. Examiner takes official notice that it old and notoriously well known in the microbiological art to grow determine traits of a microbial species before adding it to a composition. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the method of Reinbergen, as modified, by assaying the species to determine their (i)-(v) characteristics so as to ensure the composition works.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reinbergen (WO 97/31879) in view of Kosanke et al. (US 5,695,41).

As to Claim 16, the limitations of Claim 15 are disclosed as described above. Not disclosed are the microbial species grown on a complex substrate. Kosanke et al. discloses growing microbes on complex substrates (col. 4 lines 25-34). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the method of Reinbergen, as modified, by using a complex substrate to grow the microbes as disclosed by Kosanke et al. so as to efficiently grow the organisms.

Response to Arguments

Applicant's arguments filed 12 May 2003 have been fully considered but they are not persuasive. Applicant's arguments are (1) Reinbergen does not disclose the specific microbes listed in Claim 1 as currently amended (Remarks page 5 last para.); (2) Reinbergen does not teach or disclose a composition with at least 5 different bacterial species and at least 2 different fungal species (Remarks page 6 1st para.); and, (3) there is no motivation in Reinbergen to make a composition of 5 different bacterial and 2 different fungal species (Remarks page 6 2nd para.).

As to argument (1), Zuckerman et al. discloses *B. thuringiensis*.

As to argument (2), Reinbergen at page 5 lines 26-29 states that the "amount of spores or microorganisms added to solutions of the invention is not fixed *per se*, and necessarily is dependent upon the degree of soil and/or plant remediation required, the number and identity of microorganism species needed in the formulation." From this sentence it is apparent that Reinbergen anticipates mixing species with the motivation to achieve the needed results. The goal of Reinbergen to "rejuvenate soil, and promote the growth of beneficial soil microorganisms" (Reinbergen at page 5 lines 3-4). Examiner considers it obvious to one of ordinary skill in the horticultural/agricultural art to make a composition with 5 bacterial and 2 fungal species from the teaching of Reinbergen.

Conclusion

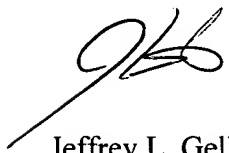
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP6-157226 discloses in the art the use of in a soil *B. thuringiensis* adjuvant.

Art Unit: 3643

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Jeffrey L. Gellner whose telephone number is 703.305.0053. The Examiner can normally be reached Monday through Thursday from 8:30 am to 4:00 pm. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Peter Poon, can be reached at 703.308.2574. The fax phone numbers for the Technology Center where this application or proceeding is assigned are 703.305.7687, 703.305.3597, and 703.306.4195.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.1113.



Jeffrey L. Gellner



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